Final Management Plan

EA ID-074-02-067

Finding of No Significant Impact

INEEL Sagebrush Steppe Ecosystem Reserve

May 2004

Finding of No Significant Impact/Decision Record

Decision: It is our decision to implement the Proposed Action as described in Section 2.2 of the Environmental Assessment (EA), with the modifications of allowing for voluntary relinquishment of grazing preference as analyzed in Alternative 3, and the additions contained in the Addendum. The management actions selected present a compromise between protecting the valuable natural resources present on the Reserve and allowing for continuation of authorized uses while achieving the Management Goals and Objectives for the Reserve contained in Section 1.2 of the EA. The decision to proceed with the modified proposed action does not result in any unnecessary or undue environmental degradation and is in conformance with the designation of the INEEL as a National Environmental Research Park in 1975.

Implementation and Administration: The decision will be implemented and administered jointly by the Bureau of Land Management (BLM) and U.S. Department of Energy (DOE) in consultation with the U.S. Fish and Wildlife Service and Idaho Department of Fish and Game. The Reserve Management Committee, as described in Section 2.1 of the environmental assessment, is responsible for overall coordination of activities conducted within the Reserve and recommending how resources should be allocated to best meet the objectives of the Reserve. Based on the decision to implement the proposed action and in accordance with Public Land Orders 1770 and 637, the BLM, Idaho Falls Field Office, will administer and enforce the grazing permits and implement range improvements for the involved grazing allotments. In accordance with the Public Land Orders, DOE will control all access to the reserve, which is within the boundaries of the Idaho National Engineering and Environmental Laboratory (INEEL), and provide services as necessary, such as use of existing vehicle washing stations and weed management. Both agencies will take action as necessary, and provide resources to implement the decision and prevent the evolution of conditions that may lead to a significant environmental impact within the meaning of NEPA. The significance criteria, which this finding of no significant impact/decision record is based upon, are listed at 40 CFR 1508.27.

Finding of No Significant Impact: In accordance with the National Environmental Policy Act and the implementing regulations of the Council of Environmental Quality contained in 40 CFR 1500-1508, we find that the modified proposed action, implemented and managed as analyzed in the attached environmental assessment, is not a major federal action significantly affecting the quality of the human environment. Therefore, no Environmental Impact Statement will be prepared.

Compliance and Monitoring: Within 60 calendar days of the date of this decision, BLM and DOE will convene the Sagebrush Steppe Ecosystem Long-Term Management Committee described in the environmental assessment. The Committee will be initially chaired by the BLM representative. Among its other responsibilities, the committee will be charged with development of Implementation and Monitoring plans for the Reserve which will be used to direct future management to achieve Management Goals and Objectives.

Carol McCoy-Brown — Date 7/22/04
Idaho Falls Field Office Manager
Bureau of Land Management

Elizabeth D. Sellers — Date 7/19/04
Manager, Idaho Operations Office
Department of Energy

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TABLES

Maps

The following maps are located inside the back cover:

ACRONYMS

AUM	Animal Unit Month
BLM	U.S. Department of Interior, Bureau of Land Management
CEQ	Council on Environmental Quality
CFA	Central Facilities Area
DOE	U.S. Department of Energy
DOE-ID	U.S. Department of Energy at INEEL
EA	Environmental Assessment
ESA	Endangered Species Act
FWS	U.S. Department of Interior, Fish and Wildlife Service
GIS	Geographic Information Systems
INEEL	Idaho National Environmental and Engineering Laboratory
IDF&G	Idaho Department of Fish and Game
IWM	Integrated Weed Management
MIST	Minimum Impact Fire Suppression Tactics
NEPA	National Environmental Policy Act (1970)
NERP	National Environmental Research Park
ROW	Right of Way
TAN	Test Area North
USGS	U.S. Department of Interior, Geological Survey
WRRTF	Water Reactor Research Test Facility

ADDENDUM

After consideration of public comments, the EA has been modified with addition of the following sections pertaining to predator and insect control programs. Chapters 2, 3, and 4 are modified with the following sections as labeled.

In addition, several editorial changes have been made within the document . These were not substantial and are shown in bold print and underlined.

Modifications to Chapter 2—Management Alternatives for Insect and Predator Control

Alternative 1 (The Proposed Action)

Insect and predator control actions would be considered on the Reserve on a case-by-case basis and would be allowed only if consistent with the Reserve Management Objectives and no other options were available to address resource issues. Guidance contained in the PLOs limits predator control to lands covered by PLO 1770.

Alternative 2 (No Action)

Predator control currently may be conducted only on lands covered PLO 1770. This covers approximately 16,600 acres (23 %) of the Reserve. Insect control is done through interagency cooperation with other interested agencies including USDA, Animal and Plant Health Inspection Service (APHIS), and the BLM. To date, insect control measures have never been conducted on the INEEL.

Alternative 3 (Emphasize Natural Resource Protection)

No insect or predator control would be considered on the Reserve.

Alternative 4 (Emphasize opportunity for Resource Development)

Continue management as under Alternative 2

Modifications to Chapter 3—Affected Environment

Insects

The Reserve contains a wide variety of native insects common in sagebrush steppe habitats, but no extensive inventory has been completed. Since the 1980s, grasshopper outbreaks in the region have included the species *Melanoplus sanguinipes*, *Camnula pellucida, Aulocara* and *Oedaleonotus enigma* (APHIS, 2003).Of these, only *Melanoplus sanguinipes* has been identified on the INEEL (Stafford, 1987). Morman crickets (*Anabrus simplex*) have not been identified on the INEEL, but probably occur at some level. None of the invertebrate species known on the INEEL are special status species.

Predators

The grey wolf has not been documented on the Reserve, but could reach the area through dispersion from established packs to the north. This species is listed as an experimental/non-essential population and problem individuals could be pursued by Wildlife Services.

Coyotes, usually the primary target of Wildlife Services control efforts, are common on the Reserve. This species is listed as a Culturally Significant Species by to the Shoshone-Bannock Tribes.

Raptors documented on the Reserve include the listed (threatened) bald eagle, ferruginous hawk (a species of concern), and the Culturally Significant Species, golden eagles and red tailed hawks. Wildlife Services does not control raptors on rangelands.

Modifications to Chapter 4—Environmental Consequences

4.3 Effects of Alternatives on Native Plant Communities, Wildlife Habitat, Soils and Air Quality, Social and Economic Resources

Management Considerations

Control of grasshopper and Morman cricket outbreaks on rangelands is mandated under Section 417 of the Plant Protection Act of 2000 (7 USC 7717). Control of these insects is conducted by the USDA, Animal and Plant Health Inspection Service (APHIS). Environmental compliance with NEPA for insect control programs is accomplished through annual environmental assessments. The current EA is the Site-Specific Environmental Assessment Rangeland Grasshopper and Morman Cricket Suppression Program. Idaho: ID-PPQ-GH2003-001 (APHIS, 2003). This document analyzes alternative control methods, insecticides available and the environmental risks of each, and may be found at www.agri.state.id.us/plants/GHOTOC.htm.

By Memorandum of Understanding (MOU) dated March 20, 2003, the INEEL and BLM agree to cooperate with other interested agencies, including APHIS, in controlling insects on the INEEL and adjacent lands. Insect control programs are conducted at the request of individual agencies or the Idaho Department of Agriculture when grasshopper or Morman cricket populations increase dramatically to reach an economically or environmentally critical level. A general rule of thumb of 8 grasshoppers or 3 Morman crickets per square yard is considered the threshold for critical level of infestation. Grasshopper suppression programs on BLM land are primarily for crop protection where private lands are in close proximity to public lands.

Grasshopper control was last implemented in the area near Howe in the 1980s and no insect control programs have been conducted on the INEEL. However, the proximity of croplands to the INEEL near Mud Lake increases slightly the possibility that control actions could be considered in the future.

Predator control across the Snake River Plain is conducted by APHIS Wildlife Services (WS) in accordance with the EA Predator Damage Management in Southern Idaho, April 16, 2002. WS conducts predator control on public lands administered by the BLM under a MOU between the BLM and APHIS dated March 21, 1995. A second MOU between BLM and INEEL dated March 20, 2003 extends the APHIS predator control measures to the portions of the INEEL covered by PLO 1770, covering approximately 1/3 of the Reserve. Approved control methods under the EA include traps, snares, calling/shooting, M-44, denning, dogs, aerial hunting, and potentially DRC-1339. Approved non-lethal methods include scare devices, guard animals, husbandry practices, herd dogs, etc. Methods are used as selectively as possible to minimize the impact to non-target species.

Wildlife Services implements predator control actions following requests for assistance, when and where there is a demonstrated need, and after a careful review of available evidence. They have utilized leg-hold traps, calling/shooting and aerial hunting on the INEEL in the past, generally in response to requests from livestock operators. Recent predator control on the Reserve has been limited to removal of between 5 and 10 coyotes per year through aerial hunting.

Sagebrush Steppe Ecosystem Reserve Management Objective 2e: States: "Adjust all activities as necessary to protect native plant communities, native wildlife habitat, and cultural and tribal resources." Both insect and predator control on the Reserve could have a wide range of effects on native wildlife and their habitat. Spraying of some insecticides may affect many non-target flora and fauna species and the wildlife that depend upon them for food. Insects significant to many of the biological functions the Sagebrush Steppe ecosystem. They are particularly important for nutrient cycling and as links in many food chains. While control projects would be an unnatural perturbation on wildlife populations and food chains, it is not possible to predict future needs for management actions. It is possible that insect control may be necessary to "protect native plant communities" or that predator control be considered to "protect native wildlife habitat."

Effects of Alternative 1:

Insect and Predator Control: Management objectives for the Reserve calling for protection of native wildlife habitat would disallow most proposals for control. Case-by-case evaluation of proposals in light of the Management Objectives and consideration of alternative solutions would minimize the potential for damage to the unique resources of the Reserve. Some control actions could be implemented.

Effects of Alternative 2:

Insect and Predator Control: With no previous insect and very limited predator control history, there have been essentially no effects on the resources on the Reserve. Under current guidance for both of these programs, both grasshopper spraying and predator control could be carried out as allowed by state level guidance for public lands. This guidance does not consider the Management Objectives of the Reserve.

Effects of Alternative 3:

Insect and Predator Control: Removing all potential for insect or predator control on the Reserve would probably have little effect. In the remote chance that grasshopper or coyote populations were to increase dramatically, there would be no opportunity to limit potential damage to Reserve resources or to adjacent private croplands.

Effects of Alternative 4:

Insect and Predator Control: With no previous insect and very limited predator control history, there have been essentially no effects on the resources on the Reserve. Under current guidance for both of these programs, both grasshopper spraying and predator control could be carried out as allowed by state level guidance for public lands. This guidance does not consider the Management Objectives of the Reserve. These effects are the same as under alternative 2.

4.8 Cumulative Impacts

Insect and predator control are conducted as necessary on essentially all other lands in the Snake River plane. Any limitations on these actions which may be placed by the Reserve long-Term Management Committee would have little effect on regional insect or predator populations. There is a small potential for the Reserve to become a refuge or source for these problem species, but retention of the potential for control under the proposed action would allow for emergency control actions should they become necessary.

Additional References Cited

APHIS. 2003. *Site-Specific Environmental Assessment Rangeland Grasshopper and Morman Cricket Suppression Program. Idaho: ID-PPQ-GH2003-001*. USDA, Animal and Plant Health Inspection Service. March, 2003. www.agri.state.id.us/plants/GHOTOC.htm.

Stafford, Michael P. 1987. Insect Interactions with Four Species of Sagebrush (Artemesia) in Southeastern Idaho. Doctorial dissertation, University of Idaho.

INEEL Sagebrush Steppe Ecosystem Reserve

Final Management Plan

1. INTRODUCTION

The **Idaho National Engineering and Environmental Laboratory Sagebrush Steppe Ecosystem Reserve (Reserve)** was established in 1999 by the then Secretary of Energy, William Richardson. In the establishing Proclamation for the Reserve, the Secretary recognized that the *"Reserve is a valuable ecological resource unique to the intermountain west and contains lands that have had little human contact for over 50 years. The Sagebrush Steppe Ecosystem across its entire range was listed as a critically endangered ecosystem by the National Biological Service in 1995, having experienced greater than a 98% decline since European Settlement….Conservation management in this area is intended to maintain the current plant community and provide the opportunity for study of an undisturbed sagebrush steppe ecosystem...Traditional rangeland uses, which currently exist on a portion of the area, will be allowed to continue under this management designation*." This proclamation was co-signed by representatives of the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (FWS), U.S. Department of Energy (DOE-ID) and Idaho Department of Fish and Game (IDF&G). The Reserve location is shown in Map 1 and the complete proclamation is contained in Appendix 1.

Approximately 40% of the 890 square miles of the Idaho National Engineering and Environmental Laboratory (INEEL) has not been grazed by livestock for the past 50 years, with the balance receiving minimal human influence during that time. This has allowed plant communities to develop into conditions that approximate those that existed prior to European settlement. This is the largest non-grazed reserve of sagebrush steppe in the region, once the most extensive semi-desert vegetation type of the Intermountain West (West, 1988). Recognition of the importance of these communities also resulted in designation of the INEEL as the second of the DOE's National Environmental Research Parks (NERPs) in 1975. This area offers research opportunities rarely found elsewhere.

While the Reserve contains significant natural resource values, management for protection of these remains secondary to the primary mission of the INEEL. The Public Land Orders (PLOs) which withdrew the INEEL lands specify that nuclear energy research remain the primary use of the INEEL and the area designated as the Reserve could be taken for these uses.

This document has been produced by an interdisciplinary team representing DOE-ID, Bechtel-BWXT, FWS, IDF&G, the Shoshone Bannock Tribes and BLM, with funding provided primarily by the DOE.

1.1 Purpose and Need

The purpose of this Environmental Assessment is to: (1) Develop resource specific goals and objectives based upon the broad objectives set forth in the Proclamation, (2) meet the requirements of the National Environmental Policy Act by developing and analyzing alternative management scenarios for achieving those goals and objectives, and (3) establish mechanisms for long-term management of the Reserve.

Throughout the Intermountain Region, low elevation sagebrush steppe communities have, and are being, widely degraded or converted to other uses such as farmlands, grasslands, urban areas and highways. In addition, spread of annual grasses and concurrent changes of fire regimes are threatening

remaining communities. Approximately 1% of historic sagebrush communities in the west remain relatively unchanged from their pre-European settlement condition (Hironaka et al., 1983; Quigley and Arbelbide, 1997; Noss et al., 1995; West, 1999) and populations of wildlife species dependent upon them are declining. The declines in sage grouse and other sagebrush obligate wildlife species have focused attention on the need for protection of remaining intact habitat necessary for species survival. Opportunities to conduct research within minimally altered sagebrush communities may be critical to the survival of many of these species.

1.2 Management Goals and Objectives

The following were developed from the general guidance contained in the Proclamation. These are intended to provide a framework for maintaining the long-term health of the increasingly rare resources found on the Reserve.

Mission Statement: The INEEL Sagebrush Steppe Ecosystem Reserve shall be managed as a laboratory where all native ecosystem components, cultural resources and Native American Tribal values are conserved. Management will concentrate on providing opportunities for scientific investigation of the resources present on the Reserve.

Management Goal 1: **Maintain and protect existing high quality biological, cultural and tribal resources.**

Objective 1a: Establish a baseline of resource data to identify and prioritize immediate needs for management adjustment.

Objective 1b: Collect, review and summarize all existing research and monitoring information.

Objective 1c: By September 2004, identify biological, cultural and tribal resources at risk, and immediate inventory needs.

Objective 1d: By September 2004, identify immediate management adjustments needed for protection of resources at risk.

Management Goal 2: Provide for long-term resource management, plan implementation and development of educational opportunities.

Objective 2a: By September 2004, develop an Implementation Plan for the management provisions identified herein.

Objective 2b: By September 2004, begin identifying funding sources to support implementation of future management actions and plan implementation.

Objective 2c: By September 2005, develop a Monitoring Plan that would address long-term monitoring needs and protocols for all significant resources on the Reserve.

Objective 2d: By September 2005, develop an Educational Outreach and Resource Interpretation plan.

Objective 2e: Adjust all activities **on the Reserve** to protect native plant communities, native wildlife habitat, and cultural and tribal resources. Achievement will be measured by reductions of invasive plant infestation acreage and numbers of cultural and tribal sites avoided.

Management Goal 3: Restore degraded ecological resources.

Objective 3a: Develop and conduct site-specific restoration plans for those areas identified as needing restoration by September 2006.

Management Goal 4: Facilitate and manage scientific research.

Objective 4a: By September 2004, develop a Research Facilitation and Management Plan for the Reserve.

Objective 4b: By September 2005, catalogue all existing research and resource data.

1.3 Funding and Plan Implementation

Implementation of selected management actions and achievement of the target dates contained in the objectives are heavily dependent upon future funding allocations. The interagency nature of management and regional significance of the Reserve broadens the potential for funding beyond any one of the cooperating agencies. The Sagebrush Steppe Ecosystem Reserve Long Term Management Committee (Reserve Management Committee) would likely be required to develop innovative funding sources to achieve plan implementation in a timely manner.

1.4 Management Issues

During the Spring and Summer of 2002, comment was received from County Commissioners, the Shoshone Bannock Tribal Council and the general public at open houses held at Idaho Falls, Fort Hall, Arco, and Mud Lake. The following issues were identified for consideration during preparation of this management plan, based upon public comment and in-house agency review.

Protection of plant communities and wildlife habitat: Viable wildlife populations are dependent upon maintaining diverse, healthy plant communities, maintaining or improving connectivity within habitats, and improving degraded habitats. Management for protection of these resources may require changes to multiple use activities, access to the Reserve, and fire suppression and reclamation procedures.

Protection of special status plant and wildlife species: Several plant and animal species on the Reserve require special attention for research and management. These species include those listed under the Endangered Species Act (ESA), those on State or Federal Sensitive Species lists, sagebrush obligate species, and species culturally important to Indian Tribes.

Management of livestock grazing: The Reserve contains portions of four BLM grazing allotments important to the local economy. Livestock distribution is controlled by herding of sheep and water placement for cattle. With limited allotment boundary fencing, livestock often trespass onto other allotments and the portions of the Reserve closed to grazing.

Wildfire management: Wildfire has been increasing in the Snake River Plain. While no recent fires have occurred on the Reserve, fire is all but certain in the future **and would remove most sagebrush from any areas burned. While sagebrush steppe ecosystems are adapted to periodic fire, recovery requires fire frequencies much lower than those typical of disturbed ecosystems elsewhere**

in the region. Fires also cause high rates of wind erosion and dust affecting INEEL facilities. A variety of fire suppression tactics are available, some of which may be less effective at stopping fire, but leave smaller impacts to surface resources when used.

Roads: The Reserve contains approximately 259 miles of roads that are available only for DOE-ID authorized uses. Public access to the INEEL is limited to protect site security and public safety. Some areas are open to big game hunting and access across the INEEL to BLM and USFS lands is also allowed. Roads, and their use, can pose numerous conflicts with the management goals of the Reserve.

Air quality: Air quality on the Reserve is most affected by smoke from wildfires and dust produced by wind erosion following fires and other soil disturbance. Most soils are highly susceptible to wind erosion, with very high levels of particulate matter being measured following wildfires.

Invasive, non-native plant species: Invasion by noxious weeds and other invasive plants pose a significant threat to the native ecosystems of the Reserve. While noxious weeds have a large potential for expansion, cheatgrass invasion, with its potential to increase fire frequency, is a large threat. In addition, crested wheatgrass, once seeded for reclamation, is also invading adjacent native plant communities.

1.5 Conformance with Existing Plans and Regulations

Designation of the Reserve is consistent with the 1975 designation of the INEEL as a National Environmental Research Park (NERP). This designation recognized the unique opportunities for research that exist on the protected lands that act as buffers around INEEL facilities. The objectives of the NERPs are to conduct research and educational activities concerning the environmental consequences of energy use and weapons development, educating the public on environmental and ecological issues, and to set aside and characterize research reference areas (DOE, 1994). **The designation is also consistent with the INEEL Long-Term Stewardship Strategic Plan.**

A large body of law applies to management of the various resources on the Reserve. Management actions proposed and conducted will comply with these and any amendments that may come in the future.

2. MANAGEMENT ALTERNATIVES

Section 102 (2)(E) of National Environmental Policy Act (NEPA) states "the Federal Government shall study, develop, and describe appropriate alternatives to the recommended courses of action in any proposal which involves unresolved conflicts considering alternative uses of available resources." A Proposed Action and three alternatives were designed using the following scenarios:

Alternative 1: (The Proposed Action) The course of action recommended by the interdisciplinary team as the best compromise between protecting ecological resources and allowing for continuation of authorized uses on the Reserve.

Alternative 2: (No Action) The management direction that now exists for the Reserve.

Alternative 3: This alternative was formulated to maximize the protection of natural resource values, choosing the most precautionary measures to protect those values.

Alternative 4: This alternative allows for maximum opportunity for use of the natural resources available for development, as limited by the Goals and Objectives for the Reserve.

2.1 Management Direction Common to all Alternatives

Most natural resource allocations are governed by laws and regulations. For some programs, such as management of species listed under the ESA, Cultural Resources and Native American Tribal Values, these laws allow for no viable management alternatives different from current guidance. Management of Long-Term Stewardship may change from the current situation due to Reserve specific guidance developed in this plan. All action alternatives and environmental effects are the same for these programs. **All management actions implemented on the Reserve will use standard construction practices, meet the requirements of law and use state-of-the-art methodology current at the time of implementation.**

Roads

Access for all research projects would be reviewed on a case-by-case basis by the Reserve Management Committee. The committee would evaluate potential impacts to ecological resources and recommend specific routes and time limitations as necessary.

Native American Tribal Values

The four agency stewards and the tribes would work together to communicate, understand and manage for tribal values and perspectives.

Long-Term Management, Public Outreach, and Research

One of the key provisions of this plan is the establishment of a Reserve Management Committee. This committee would be created by Memorandum of Understanding and include representatives of DOE-ID, BLM, USF&W, IDF&G, higher education and Shoshone-Bannock Tribes. Functioning of this committee is important to the success of the provisions of this plan and the long-term management of the Reserve.

This committee would:

- Oversee research, data management and information sharing.
- Oversee management of ecological and cultural resources.
- Coordinate with the INEEL Long-Term Stewardship Program and Wildland Fire Management Committees.

Wildfire

1. The INEEL **will** establish a Wildland Fire Management Committee to provide recommendations to the DOE-ID Operations Office manager for pre- and post-fire activities and to facilitate implementation of these activities. The committee will consist of experts in cultural resources, threatened and endangered species, vegetation, wildlife, soils, watersheds, air, the Sagebrush Steppe Reserve, the NERP, NEPA, Fire Marshall, Fire Department, Geographic Information Systems and INEEL Infrastructure.

2. The following fuel management zones are managed for reduced fuel loads.

    - **Mowing, prescribed fire or a combination of the two will** be conducted a minimum of 10-ft and maximum of 50-ft.on each side of all paved roads (State Highways 22, 28, and 33 and Lincoln Boulevard).
    - Mow 5 to 10 ft around WRRTF, with no blading, sterilization or gravel placement being allowed.
    - No fuel management will be conducted along unimproved roads.

2.2 Alternative 1: The Proposed Action

Lands and Minerals

1. Development of new mineral material quarries within the Reserve would no longer be allowed with the exception of the previously permitted clay sources at the Water Reactor Research Test Facility (WRRTF).

2. Development of new utility rights-of-way (ROWs) would not be allowed outside of the State highway ROWs.

3. Existing ROWs and abandoned gravel pits would be inventoried for conflicts with the goals of the Reserve and restored as necessary. Existing ROWs would remain in place.

Roads

1. All non-paved roads and trails within the Reserve would be designated as either open to all authorized vehicles or open to only authorized research vehicles. Under this alternative approximately 105 miles would remain open for all authorized vehicles and 154 miles open to authorized research vehicles only, as shown Map 2. **All roads would remain available for emergency access.**

2. Routes open to all authorized vehicles would be designated with signs and others would have use tightly controlled by the Reserve Management Committee. All research proposals would be reviewed, with access allowed via specific routes that minimize impacts to ecological resources.

3. Routes available for all authorized vehicles would include: access to BLM and National Forest land in the Lemhi Mountains, all INEEL maintenance priority 1, 2, and 3 roads, the Breeding Bird survey route, necessary access for livestock management and routes to groundwater monitoring wells.

4. Only routes designated as open to all authorized vehicles would be available for public hunting access in the portion of the Reserve now open to hunting.

Noxious and Invasive Plants

1. Implement an Integrated Weed Management Plan (IWM) for the Reserve. IWM consists of actions taken in 4 phases. Phase 1: education, inventory, impact assessment; Phase 2: prioritizing weed problems, choosing and implementing management techniques; Phase 3: adopting proper grazing management; Phase 4: evaluation of management practices (Sheley et al., 1999).

2. All off-road, fire control and construction vehicles entering the Reserve would be routed through the bus washing station at the Central Facilities Area (CFA) to have their undercarriages washed with high-pressure equipment to remove soils potentially containing noxious weed seeds.

3. Areas along roadsides and trails, and around INEEL facilities would be evaluated for undesirable plant encroachment into adjacent native plant communities and treated as necessary. This would include noxious weeds, invasive annual species and crested wheatgrass stands.

Revegetation Project Guidance

1. Only locally collected seed and/or transplants would be used for reestablishment of the perennial plant community.

2. Under special circumstances, other species would be allowed as determined by the Reserve Management Committee following site-specific evaluation.

Livestock Grazing

1. The following requirements would be added to the existing Terms and Conditions applied to each grazing permit.

    - All supplemental feed brought onto the Reserve would be certified weed free.

    - No change in class of livestock would be considered for each allotment

    - No increases in stocking levels would be considered.

2. Each livestock concentration area would be evaluated on a case-by-case basis to determine needs for restoration **or other changes in management**.

3. 12.4 miles of boundary fence would be constructed along the north and east sides of the Wigwam Butte Allotment. The fence would extend from the eastern end of the existing fence, to and along,

State Highways 22 and 33 to the western boundary of the INEEL and be set back a minimum 200 yards from the highways

4. No construction of water wells would be considered for livestock watering purposes.

Wildlife Habitat

1. All unused power poles would be removed.

2. Active power line systems would have devices installed to make the towers and poles un-useable as perches by raptors.

3. Native plant communities would be restored as necessary.

Surface Water

If a portion of the water from the Birch Creek Hydropower diversion becomes available for use on the Reserve, the water would be returned to the Birch Creek channel. Native riparian plants would be reestablished within the newly created riparian areas as necessary.

Wildfire Management

Fire Suppression

When fires burn under severe conditions, Incident Commanders (ICs) have discretion to use any and all tactics allowed in the INEEL Wildland Fire EA**, consistent with the management objectives of the Reserve. Dozer constructed fire line would be considered only when absolutely necessary**. When fires burn under less severe conditions, fire suppression tactics would be selected from the following prioritized list**, emphasizing use of Minimum Impact Suppression Tactics as described under Alternative 2.** The overall objective would be to stop fires using the least impacting method.

1. A Resource Advisor, **provided by INEEL or BLM,** and knowledgeable of the Reserve management objectives, would be assigned to each fire on, or approaching the Reserve **as early a possible in the fire suppression process.**

2. Aerially applied retardant for containment line construction and fire suppression

3. Allow fires to burn to natural or existing man-made barriers rather than creating newly constructed line

4. Use wet **lines and/or hand-constructed line with cold-trail tactics.**

5. If containment lines are used, they would be located to minimize burning of sagebrush stands and direct impacts to sagebrush by line construction

6. Use of dozers or graders would require concurrence from the Chairman of the Reserve Management Committee, or designate, prior to their use.

7. Bladed containment lines would be located on existing roads where possible

8. Construct newly bladed containment line using minimum width and depth to check fire spread. Locate lines to minimize impact to drainages, sagebrush stands, and cultural/tribal resources

9. Avoid burning-out unburned pockets of vegetation within containment lines, unless absolutely necessary

10. **Use indirect suppression tactics only as a last resort and in a way that minimizes burning of sagebrush.**

Fire Mop-up

1. Islands of unburned vegetation within containment lines would not be burned out

2. Restrict soil disturbance to hot areas near containment lines only

3. Cold-trial interior hot spots to protect residual vegetation.

Fire Restoration

After every fire on the Reserve, the Reserve Management Committee, in conjunction with the INEEL Wildland Fire Management Committee, would conduct evaluation of fire and fire suppression impacts to natural and cultural resources and provide long-term monitoring, mitigation and restoration recommendations using the following guidelines:

1. Restoration would generally be limited to areas where vegetation was destroyed by suppression activities

2. Use only locally collected native seed or transplants and certified weed free materials for mulching

3. Minimizing off-road vehicle use of the burned area

4. Monitor affected areas twice monthly during the first growing season for presence of noxious weeds.

2.3 Alternative 2: No Change in Management Direction

Lands and Minerals

1. Development of new sand and gravel quarries within the Reserve is considered on a case-by-case basis. One 200-acre clay source has been permitted near WRRTF.

2. New ROWs are considered on a case-by-case basis.

Roads

1. Roads and tracks are all available for use by authorized vehicles.

2. All roads are maintained as necessary.

3. Access for big game hunting is allowed on established roads that have not been closed by DOE-ID on a portion of the Reserve north of Highway 33, west of Highway 22, south and west of the Kyle Canyon Road.

Noxious and Invasive Plants

Noxious weeds are treated as INEEL budgets allow.

Revegetation Project Guidance

Current guidance for revegetation at the INEEL is contained in Anderson and Shumar (1989) as amended. This guidance limits revegetation species to the native species included in Table 2 of the document. Use of commercially available cultivars of these species is allowed.

Livestock Grazing

Among others that do not affect this plan, existing Terms and Conditions applied to each grazing permit currently are:

1. Allotments must meet requirements of 43 CFR 4180, Fundamentals of Rangeland Health.

2. Utilization of key upland species shall be no more than 50% of the annual growth.

Wildlife Habitat

The abandoned power line along Lincoln Boulevard has a total of 16 poles, two of which have nesting platforms attached.

Surface Water

As shown in Map 7, out-flows from the Birch Creek Hydroelectric plant flow through a small portion of the Reserve and into the T-28 North gravel pit which is off of the Reserve.

Wildfire

DOE-ID recently completed the NEPA process evaluating fire management options (DOE/EA-1372) for the INEEL. The Finding of No Significant Impact (FONSI) was signed on April 24, 2003. The management actions selected in the FONSI are the existing fire management guidance for the Reserve.

Staged Fire Response

1. The INEEL will use a staged response and incorporate MIST whenever conditions allow.

2. No Resource Advisors are assigned to fires.

Minimum Impact Suppression Tactics (*MIST*)

In Light fuels:

1. Construct containment lines using water or foam and cold-trail tactics

2. Allow fires to burn to natural barriers

3. When using mechanically constructed containment lines:

    - Use minimum width and depth to check fire spread
    - Use Tilted blades
    - Use parallel tactics to minimize containment lines

- Place containment lines to minimize impact on significant environmental resources including waterways, draws, and sagebrush stands.

In Medium to Heavy Fuels:

1. Allow use of natural barriers and cold-trailing.
2. Cool with soil and water and cold-trailing
3. When using mechanically constructed containment lines

    - Use minimum width and depth to check fire spread
    - Use Tilted blades
    - Use parallel tactics to minimize containment lines
    - Place containment lines to minimize impact on significant environmental resources including waterways, draws, and sagebrush stands.

Conventional Fire Suppression Tactics

Direct suppression:

1. Hose line application of water and/or foam from off road fire-fighting equipment
2. Aerial delivery of water and/or chemical retardant using helicopters and air tankers
3. Construction of containment lines up to 24 feet wide on the fire perimeter using dozers, graders and discs.

Indirect suppression:

1. Construct containment lines ahead of advancing fire. Generally using dozers, graders or discs for lines up to 24 feet wide or widening of existing breaks.
2. Pockets of unburned vegetation within the fire perimeter would be preserved as much as possible.

Parallel suppression:

1. Construct containment lines parallel to, but further from the fire than in indirect attack
2. Burn out fuels between containment lines and the fire

3. Construct containment lines to effectively control the fire.

Post-Fire Actions for Dust Suppression

1. Application of chemical soil tackifier and/or mulch

2. Installation of water cannons or snow fences upwind of affected facilities.

Post Fire Mop-up

1. Use cold-trail tactics adjacent to unburned fuels, including interior pockets to detect hot areas.

2. Restrict soil-disturbing activities to hot-spots near containment lines.

3. Use thermal detection devices along perimeter to detect hot-spots.

Site Restoration

1. Site-specific analysis to determine needs.

2. Recontour areas disturbed during suppression actions.

3. Use native species preferred, but use of commercially available cultivars of these species is allowed.

2.4 Alternative 3: Emphasize Natural Resource Protection

Lands and Minerals

This alternative contains the same management direction as proposed for Alternative 1.

Roads

1. All non-paved roads and trails within the Reserve would be designated as either open to all authorized vehicles or open to only authorized research vehicles. As shown in Map 3, this alternative proposes approximately 84 miles to remain open for all authorized users and 165 miles open to authorized research vehicles only as shown on map 3

2. Routes open to all authorized vehicles would be designated with signs and others would have use tightly controlled by the Reserve Management Committee. All research proposals would be reviewed with access allowed via specific routes that minimize impacts to ecological resources.

3. Routes available for all authorized vehicles, would include: access to BLM and National Forest land in the Lemhi Mountains, all INEEL maintenance priority 1, 2, and 3 roads, the Breeding Bird survey route, necessary access for livestock management and routes to groundwater monitoring wells.

4. Only routes designated as open to all authorized vehicles would be available for public hunting access in the portion of the Reserve now open to hunting.

Noxious and Invasive Plants

This alternative contains the same management direction as proposed for Alternative 1.

Revegetation Project Guidance

This alternative contains the same management direction as proposed for Alternative 1.

Livestock Grazing

1. All of the management actions proposed in Alternative 1.

2. Opportunities for purchase, retirement or relinquishment of grazing permits would be pursued from operators willing to sell.

Wildlife Habitat

This alternative contains the same management direction as proposed for Alternative 1.

Surface water

If a portion of the water from the Birch Creek Hydropower diversion becomes available for use on the Reserve, the water would be returned to the Birch Creek channel at as many separate locations as feasible. Map 4 displays potential water return points based upon GIS map data. Native riparian plants would be reestablished within the newly created riparian areas as necessary.

Wildfire

This alternative contains the same management direction as proposed for Alternative 1.

2.5 Alternative 4: Emphasize opportunity for Resource Development

Lands and Minerals

1. Development of new sand and gravel quarries and ROWs would be considered on a case-by-case basis.

2. Existing ROWs and abandoned gravel pits would be inventoried for conflicts with the goals and objectives of the Reserve and restored as necessary.

Roads

This alternative contains the same management direction as currently exists under Alternative 2.

Noxious and Invasive Plants

Implement an IWM Plan for the Reserve. This would include an extensive weed inventory, application of biological pest controls where appropriate, chemical weed control where appropriate, reduction of spread vectors, education of INEEL staff, and coordination with the Continental Divide Cooperative Weed Management Area.

Revegetation Project Guidance

This alternative contains the same management direction as proposed for Alternative 1.

Livestock Grazing

1. Increase livestock stocking to the full preference of Animal Unit Months (AUMs) for each allotment. This is the amount of grazing allotted during grazing district adjudication in the 1960s.

2. To accommodate the increased grazing on the cattle allotments (Sinks and Wigwam Butte), operators would be required to herd cattle to control utilization and distribution. Livestock movement would be based upon monitoring data with maximum utilization levels set to achieve Reserve Management Goals and Objectives.

3. The boundary fence along the north and east sides of the Wigwam Butte Allotment would be extended as under Alternative 1.

Wildlife Habitat

1. All unused power poles would be removed.

2. No active power lines would be modified to eliminate raptor perching.

Surface Water

This alternative contains the same management direction as proposed for Alternative 1.

Wildfire

Alternative 4 contains the same management direction as Alternative 2, with the addition of requiring Resource Advisors be assigned to all fires on or threatening the Reserve.

Table 1. Summary of management alternatives.

Program	Alternative 1: Proposed Action	Alternative 2: No Action	Alternative 3: Emphasize Resource Protection	Alternative 4: Emphasize Opportunity for Resource Development
Lands and Min.				
1. Gravel pits	1. No New Development, allow currently permitted clay pit	1. Allowed.	1. Same as #1	1. Same as #2
2. ROWs	2. No New Development.	2. Allowed	2. Same as #1	2. Same as #2.
3. Existing ROWs and gravel pits	3. Inventory and repair where conflicts exist.	3. Monitored for stability	3. Same as #1.	3. Same as #1.

Table 1. (continued).

Program	Alternative 1: Proposed Action	Alternative 2: No Action	Alternative 3: Emphasize Resource Protection	Alternative 4: Emphasize Opportunity for Resource Development
Roads				
1. Open to all authorized uses	1. 95 miles	1. 259 miles	1. 84 miles	1. 259 miles
2. Open for authorized 'authorized research only'	2. 154 miles	2. 259 miles	2. 165 miles	2. 259 miles
3. Road maintenance	3. Controlled by Reserve Mgt. Committee	3. All roads maintained as necessary.	3. Controlled by Reserve Mgt. Committee	3. All roads maintained as necessary.
Weeds				
1. Control	1. IWM	1. Limited spraying.	1. IWM	1. IWM
2. Vehicles	2. Specific high risk types washed at bus garage	2. No controls	2. Same as #1	2. Same as #2
3. Seeded Areas	3. Evaluated for conflicts	3. No evaluation	3. Same as #1.	3. Same as #2
Revegetation Direction	Only local genotypes of native species.	Allows for mixtures of native species and commercially available cultivars of these species.	Same as #1.	Same as #2
Livestock				
1. Supplemental feed.	1. Cert. Weed Free	1. No limits	All limitations in Alternative 1 with phasing out of livestock grazing by voluntary relinquishment of permits	1. Same as #1
2. Stock concentration areas	2. Inventory for remedition	2. No limits		2. Same as #1
3. Fencing	3. Eastern and southern boundaries of Wigwam Butte fenced	3. Current partial fence between Wigwam Butte and Mahogany		3. Same as #1.
4. Class of livestock	4. No changes	4. May be changed after NEPA analysis		4. Same as #2.
5. Stocking	5. No increases	5. May be changed after NEPA Analysis.		5. Increased to adjudicated capacities with herding required.

Table 1. (continued).

Program	Alternative 1: Proposed Action	Alternative 2: No Action	Alternative 3: Emphasize Resource Protection	Alternative 4: Emphasize Opportunity for Resource Development
Wildlife 1. Raptor perches	Remove all abandoned power poles and install anti-perching devices on active power lines.	Nest platforms and perches on some abandoned power poles, some artificial nesting platforms, active power poles available for raptor perches	Same as #1.	Only remove abandoned power poles.
Surface water	Return a portion of the Birch Cr. winter return flows to one location, if available.	B.C. Hydro winter returns into gravel pit	Return a portion of Birch Cr. flows to as many as 3 locations, if available.	Same as #1
Wildfire 1. Resource Advisors 2. Suppression 3. vegetation burnout within containment lines 4. Fire rehab.	1. Assigned to all fires 2. Prioritized list of suppression tactics including MIST. 3. only as last resort 4. Only suppression areas following site specific evaluation	1. None 2. All suppression tactics available including MIST. 3. as necessary 4. Site specific evaluation. Species allowed as under Revegetation section.	Same as #1	1. Assigned to all fires. 2. Same as #2 3. Same as #2. 4. Same as #1